CANADA

NATIONAL ENERGY BOARD

PROPOSED APPROACH TO INCENTIVE RATE OF RETURN FOR THE NORTHERN PIPELINE

REVISED

JANUARY 1979

NATIONAL ENERGY BOARD

PROPOSED APPROACH TO INCENTIVE RATE OF RETURN
FOR THE NORTHERN PIPELINE

The enclosed document contains the revised Approach to the Incentive Rate of Return for the Northern Pipeline and the Draft Regulations pertaining thereto.

The initial proposal of the Board was released on October 19, 1978, and the attached revision has been made after taking into consideration the submissions received from interested parties.

B. H. Whittle

Brian H. Whittle,
Secretary

DRAFT

January 24, 1979

NATIONAL ENERGY BOARD

PROPOSED APPROACH TO INCENTIVE RATE OF RETURN FOR THE NORTHERN PIPELINE

Introduction

In October 1978, the National Energy Board issued a preliminary draft of a "Proposed Approach to Incentive Rate of Return for the Northern Pipeline". This draft was based on the principles set forth in the U.S. Federal Energy Regulatory Commission's document relating to the proposed rule-making on the same subject and, at the same time, reflected specific Canadian conditions. It was made clear in the preliminary draft that any rates of return were introductory and were subject to review in the light of submissions made. Foothills made an initial response to the Board's proposal and this was followed by submissions from:

The State of Alaska

The People of the State of California and the Public Utilities Commission, State of California

State of New York Department of Public Service

Canadian Wildlife Federation

Canadian Arctic Resources Committee

Sulzer Bros. (Canada) Limited

with a further submission, in accordance with the procedures, by Foothills.

The Board has given careful consideration to all of the views contained in each of the submissions and is now, in this document, issuing a second edition of its proposal. It is doing this because of Foothills' need for guidance on the Incentive Rate of Return Scheme before it can undertake

serious negotiations relative to the financing of the pipeline. On the basis of the Board's present information, the Regulations contained in this second version are not likely to be significantly different from those ultimately promulgated. However, the Board has not yet made a final decision on the Incentive Rate of Return Scheme pending filing of the proposed tariff with the Board and being provided with more specific insights into the financing of the pipeline. The Board is still giving consideration to the need for a public hearing dealing with approval of the IROR Scheme, of a tariff and of the financing plan of the pipeline.

The pipeline extending through Alaska, Canada and south of the 49th parallel is in effect a single entity, particularly for financing purposes. Therefore a similar approach, where practical, to the IROR Scheme is needed in both countries. Consequently, consultations between the Federal Energy Regulatory Commission and the National Energy Board have continued to take place as provided for in Section 9 of the Canada/U.S. Agreement, and Section 32 of the Northern Pipeline Act.

It is not the intention of the Board to respond to each and every aspect raised in the submissions but, as indicated earlier, careful consideration has been given to them. However, it seems appropriate for the Board to make some general observations because of the apparent misunderstandings contained in some of the submissions.

The Board's Observations

(1) The two fundamental principles on which a final decision of the Board will be based are:

(a) the decision will be consistent with other regulatory decisions of the National Energy Board on rate of return matters and, therefore, reflective of Canadian regulatory practice;

serious negotiations relative to the financing of the pipeline. On the basis of the Board's present information, the regulations contained in this second version are not likely to be significantly different from those ultimately promulgated. However, the Board has not yet made a final decision on the Incentive Rate of Return Scheme pending filing of the proposed tariff with the Board and being provided with more specific insights into the financing of the pipeline. The Board is still giving consideration to the need for a public hearing dealing with approval of the 1980 Scheme, of a tariff and of the financing plan of the pipeline.

The pipeline extending through Alaska, Canada and south of the 49th parallel is in effect a single entity, particularly for financing purposes. Therefore a similar approach, where practical, to the 1980 Scheme is needed in both countries. Consequently, consultations between the Federal Energy Regulatory Commission and the National Energy Board have continued to take place as provided for in Section 8 of the Canada-U.S. Agreement and Section 12 of the Northern Pipeline Act.

It is not the intention of the Board to respond to each and every aspect raised in the submissions but, as indicated earlier, careful consideration has been given to them. However, it seems appropriate for the Board to make some general observations because of the apparent misunderstandings contained in some of the submissions.

<u>The Board's Observations</u>

(1) The two fundamental principles on which a final decision of the Board will be based are:

(a) the decision will be consistent with prior regulatory decisions of the National Energy Board on rate of return matters and, therefore, reflective of Canadian regulatory practice;

(b) a rate of return will be set which, in the Board's opinion, will be just high enough to allow financing of the pipeline but no higher.

(2) The National Energy Board public hearings on the Northern Pipeline were for a certificate of public convenience and necessity under Part III of the National Energy Board Act. The rates of return used in those proceedings were for the purpose of illustrating economic feasibility, as distinct from rates of return to be established in rate proceedings under Part IV of the NEB Act. Secondly, although illustrative returns on equity were used for comparative purposes in the negotiations leading to the Canada-U.S. Agreement on the Northern Pipeline, no specific rates were negotiated and none were contained in the Agreement. Rates of return can only be established in relation to the specific circumstances of the financing of the pipeline.

(3) Certain submissions have focused on the gap in the Operation Phase Rate between the U.S. rate of 13 per cent and the Canadian rate of 16 per cent. The U.S. rate is described as illustrative and, therefore, the U.S. Federal Energy Regulatory Commission's position on it is unknown at this time. It would appear that the rate is at least one percentage point below the rate for other natural gas pipelines in the United States of comparable capital structure, supposedly reflecting the benefit from the full cost of service tariff proposed for the pipeline. In Canada, the 16 per cent was illustrative of the rate of return on equity for a normal gas pipeline south of the 60th parallel with a 25 per cent equity component in its capital structure.

....4

(b) a rate of return will be set which, in the Board's opinion, will be just high enough to allow financing of the pipeline but no higher.

(2) The National Energy Board public hearings on the Northern Pipeline were for a certificate of public convenience and necessity under Part III of the National Energy Board Act. The rates of return used in those proceedings were for the purpose of illustrating economic feasibility, as distinct from rates of return to be established in rate proceedings under Part IV of the NEB Act. Secondly, although illustrative returns on equity were used for comparative purposes in the negotiations leading to the Canada-U.S. Agreement on the Northern Pipeline, no specific rates were negotiated and none were contained in the Agreement. Rates of return can only be established in relation to the specific circumstances of the financing of the pipeline.

(3) Certain submissions have focused on the gap in the operating phase rate between the U.S. rate of 17 per cent and the Canadian rate of 16 per cent. The U.S. rate is described as illustrative and, therefore, the U.S. Federal Energy Regulatory Commission's position on it is unknown at this time. It would appear that the rate is at least one percentage point below the rates for other natural gas pipelines in the United States of comparable capital structure, apparently reflecting the benefit from the full cost of service tariff proposed for the pipeline. In Canada, the 16 per cent was illustrative of the rate of return on equity for a normal gas pipeline south of the 60th parallel with a 35 per cent equity component in its capital structure.

The Board recognizes that there will be advantages in the form of the proposed full cost of service tariff, but these advantages may not be too significant in comparison with the form of existing tariffs for TransCanada PipeLines Limited, Westcoast Transmission Company Limited and Alberta Gas Trunk Line. On the other hand, the Board recognizes that this will be a single unlooped pipeline passing through hostile terrain for part of its length and incorporating new features. The Board expects that the operational risks will be at least offset by the benefits to accrue from a full cost of service tariff. The appraisal of the operational risk appears to account for a major difference between the FERC and the NEB Operation Phase Rate. In addition, there is the traditional difference in the rates of return on equity and interest rates between Canada and the United States of between 1 and 1.5 percentage points.

(4) Certain submissions indicated that the National Energy Board took into account the investment tax credit in the United States in establishing the rates of return for Canada. This is not correct. The Canadian rates were established solely on the basis of Canadian regulatory practice. It was, however, pointed out in the Board's proposal that U.S. equity investors would benefit from the investment tax credit as well as from the rate of return on equity allowed by the FERC.

....5

(5) The Board is not certain that some of the submissions recognized adequately the effect on the cost of service in the tariff of the capital structure proposed by Foothills of 75 per cent debt and 25 per cent equity. The equity component of the capital structure of 25 per cent appears to be somewhat thin for a pipeline stated by Foothills to have significant risks. Natural gas pipeline companies in the United States more commonly have capital structures of 35 to 40 per cent common equity. If one allows for the effect on the tariff of return on equity, corporate income taxes and debt in the cost of service, a 16 per cent return on equity with a 25 per cent equity component in the capital structure would yield the same cost of service as a company earning 11.9 per cent on equity with a 40 per cent equity component in the capital structure.

	25% Equity	40% Equity
Return on Equity (after tax)	25 x 16 = 4.0	40 x 11.9 = 4.75
Corporate Taxes (50% of pre-tax profit)	4.0	4.75
Debt	75 x 10 = 7.5	60 x 10 = 6.0
Return before Taxes on Rate Base	15.5	15.5

(6) Several respondents requested the National Energy Board and, for that matter, the U.S. Federal Energy Regulatory Commission, to use the NEB 16 per cent and the FERC 15 per cent return on equity given in evidence in the earlier proceedings. This

....6

fails to recognize, as Foothills has pointed out on pages 10 and 11 of its second submission, that the project has changed in a significant number of ways since those proceedings were terminated. Furthermore, the main test in the Board's eyes is the minimum rate of return necessary to ensure that the project is financeable in the private sector.

(7) Foothills requested that to reduce risks three changes be made in the NEB proposal, namely:-

(i) the elimination of the effect of changes in scope beyond the control of Foothills;

(ii) the elimination of monitoring costs from actual capital costs; and

(iii) the use of the same rate for the allowance for funds used during construction (AFUDC) in actual capital costs as was used for filed capital costs.

However, the Centre Points, which several respondents indicated were high, would have to be reduced if Foothills' requests were to be met. The FERC has already indicated that if changes in scope, etc. were to be eliminated, the Centre Point would have to be reduced below 1.3. The Board does not propose to change the Centre Points at this time, except for prebuilt facilities, as discussed below.

(8) The initial scheme did not provide for the situation should prebuilding of the southern sections of the line in Canada take place for the purposes of transmitting Alberta gas in advance of the pipeline being built to transmit Alaska gas.

....7

The Canada-U.S. Agreement provided for the circumstances where the pipeline would be delayed and incorporated a mechanism for adjusting "filed capital costs" to reflect this, but did not provide for any early building of any parts of the pipeline. The NEB proposes that the IROR Scheme in general, and the Cost Performance Ratio in particular, should apply to prebuilt facilities. For this purpose, the "filed capital costs" in the Canada-U.S. Agreement will be adjusted downwards to reflect the authorized dates of construction for any prebuilt facilities, based on the inflation factors used by Foothills in the National Energy Board Northern Pipeline Hearing. This will have the effect that Foothills' estimate for prebuilt facilities will be its 1976 year base cost adjusted upwards for the inflation factors used by Foothills in that hearing. Since prebuilt facilities would be constructed earlier than the Canada-U.S. Agreement contemplated, the risks would likely be less because inflation in, say, 1981 and 1982, would be avoided; therefore, the Centre Point for prebuilt facilities has been reduced from 1.25 to 1.20 in zones 6, 7, 8 and 9 and from 1.35 to 1.30 in zone 5.

In the light of the foregoing and in consideration of all the submissions, the Board has revised its draft regulations, and these are shown in the attachment. These may be summarized as follows:

	U.S. Proposal for Alaska	Canadian Proposal: Yukon N. of Whitehorse	Canadian Proposal: Other Yukon N. BC N. Alta.	Canadian Proposal: Other
	%	%	%	%
Operation Phase Rate	13	16.00	16.00	16.00
Non-incentive Rate	15	17.25	17.25	17.25
Centre Rate	17	17.75	17.75	17.5
Marginal Rate	8	9.00	9.00	9.00
Centre Point	1.3	1.45	1.35*	1.25*

* Except for prebuilt facilities, for which the Centre Point will be 1.30 in Northern Alberta and 1.20 in other Zones

These rates of return are significantly lower than the original proposal, by 1.75 percentage points for the zone in the Yukon north of Whitehorse, and by 0.75 percentage points for Other Yukon, Northern British Columbia and Northern Alberta. This is partly because the risk premium relating to construction has been reduced to 1.25 percentage points and the premium for the IROR Scheme has been reduced to 0.5 percentage points except in the southern zones where it has been reduced to 0.25 percentage points.

The need for, and magnitude of, a minimum rate of return must be related to the effect of major cost overruns on the cost of transmission, to the attraction of capital for financing the pipeline and to the protection of financing of the Dempster link pursuant to the Canada-U.S. Agreement. On the basis of the above considerations, the Board has now reduced the minimum

....9

rate of return to 14.5 per cent from 16.0 per cent in the first draft. The presence of this minimum rate of return is a major factor in permitting the reduction in the premium for the Incentive Rate of Return previously indicated. The Board will require evidence to be submitted on the need for, and the level of, the minimum rate of return at the time the financing plan is being reviewed.

It is not anticipated that these draft Regulations will be reviewed again until detailed consideration can be given to the tariff and the financing plan of the pipeline.

ATTACHMENT

January 24, 1979

NORTHERN PIPELINE ACT

Regulations made pursuant to Section 36 of the Northern Pipeline Act on the Incentive Rate of Return (IROR) and related Tariff Matters

Short Title

1. These Regulations may be cited as the "Northern Pipeline IROR Regulations".

Interpretation

2. In these Regulations

"Act" means the Northern Pipeline Act,

"Actual Capital Costs" means the actual costs of construction at the time "leave to open" is granted by the National Energy Board, including estimates of cost incurred but not yet booked and allowance for funds used during construction and monitoring costs (Section 29 of the Act), and excluding working capital, property taxes, the road-related charges in the Yukon Territory of up to $30 million, and:

> ". . . the effect of increases in cost or delays caused by actions attributable to the U.S. shippers, related U.S. pipeline companies, Alaskan producers, the Prudhoe Bay deliverability or gas conditioning plant construction and the United States or State Governments. If the appropriate regulatory bodies of the two countries are unable to agree upon the amount of such costs to be excluded, the determination shall be made in accordance with the procedures set forth in Article IX of the Transit Pipeline Treaty." (Annex III)

as set forth in Schedule I of the Act,

"Allowance for Funds Used During Construction", (AFUDC), has the same meaning as Interest During Construction in the Gas Pipe Line Uniform Accounting Regulations of the National Energy Board.

"Centre Point" means that Cost Performance Ratio which is associated with the Centre Rate,

"Centre Rate" means the rate of return on equity equal to the sum of the Operation Phase Rate, the Project Risk Premium and the IROR Risk Premium and is the Centre Rate applicable to the Centre Point Cost Performance Ratio,

"Cost Performance Ratio" means an index of the degree of cost overruns,which is Actual Capital Costs over Filed Capital Costs,

"Equity" means common equity,

"Filed Capital Costs" means the filed capital costs in Schedule I of the Act, which costs exclude working capital, property taxes, and the provision for road maintenance in the Yukon Territory of up to $30 million, ex cept for prebuilt facilities in Zones 5, 6, 7, 8 and 9, where "Filed Capital Costs" means the filed capital costs in Schedule I of the Act deflated to the actual authorized dates of construction using the inflation factors used by Foothills (Yukon) in the National Energy Board's Northern Pipeline Hearings,

"Incentive Rate of Return" means the rate of return on common equity as determined from Schedule II and as illustrated in Schedule III,

....3

"Marginal Rate" means the return on the incremental dollars invested in common equity to move from one cost performance ratio to another,

"Non-incentive Rate" means the rate of return on equity equal to the sum of the Operation Phase Rate and a Project Risk Premium for those construction and completion risks unique to the pipeline,

"Operation Phase Rate" means the rate of return on equity allowed on natural gas pipelines in Canada of similar operating risk,

"Pipeline" has the same meaning as in the Act,

"Prebuilt Facilities" means those pipeline facilities built to transmit gas of Canadian origin before the pipeline is placed in service for transmitting Alaska gas.

Purpose

3. The purpose of these Regulations is to implement the Incentive Rate of Return Scheme referred to in Part II and section 4 of Schedule I of the Act.

Application

4. These Regulations apply to all companies constructing and operating the pipeline.

5. (1) Allowance for Funds Used During Construction (AFUDC) shall be determined monthly.

(2) In respect of debt and preferred stock AFUDC shall be the actual cost incurred, and for the common equity component it shall be one-twelfth of the non-incentive rate applied to the average balance in the common equity accounts for the previous month, including the common equity component of the previously capitalized AFUDC.

....4

(3) The amount of AFUDC to be capitalized shall be subject to the approval of the Board.

6. The Board shall approve estimates of filed capital costs for prebuilt facilities.

7. The rate of return on common equity shall be as set forth in Schedule I.

8. The Centre Point for each zone, as defined in Annex II of Schedule I to the Act, is shown in Schedule I.

9. Schedule I shall be used to determine the formulae for the Incentive Rate of Return in Schedule II.

10. The Incentive Rate of Return for each zone shall be determined according to the formulae contained in Schedule II.

11. (1) A one-time adjustment to the rate base shall be determined for each zone, except that where there may be "prebuilt facilities", there will be a one-time adjustment in each zone for prebuilt facilities and one for other facilities, by:

(a) calculating the common equity component applicable to the actual construction costs, including AFUDC, and determining the dollar value of the common equity component in each of the 25 operating years on the assumption that the common equity is fully recovered by depreciation charges in equal annual installments over the 25-year period,

(b) applying the difference between the Incentive Rate of Return for each zone derived from Schedule II and the Operation Phase Rate to the dollar value of the common equity component in each year,

....5

(c) calculating the present value of the stream of income using the Operation Phase Rate as the discount rate, and

(d) adding the present value determined in (c) to the rate base.

(2) The Board shall approve the determination of the one-time adjustment to rate base.

12. The rate base for rate-making purposes shall include working capital determined according to normal regulatory practice.

13. The one-time adjustment to rate base shall be amortized at the same rate as AFUDC.

14. The Incentive Rate of Return and its application as described in these Regulations may be varied if:

(a) any significant change in the risks applicable to common equity occurs due to a change in the financing plan from that envisaged at the time the rate was determined,

(b) the capital structure varies significantly from 25 per cent common equity on completion of the pipeline,

(c) the rates of return generally applicable to other natural gas pipelines change;

(d) Acts of God or other unforeseen circumstances occur.

....6

Schedule I

	Zone 1 %	Zone 2,3,4,5 %	Zone 6,7,8,9 %
Operation Phase Rate	16.00	16.00	16.00
Non-incentive Rate	17.25	17.25	17.25
Centre Rate	17.75	17.75	17.5
Marginal Rate	9.00	9.00	9.00
Centre Point	1.45	1.35*	1.25*

* Except for prebuilt facilities, for which the Centre Point will be 1.30 in Zone 5 and 1.20 in Zones 6, 7, 8 and 9

Schedule II

	Incentive Rate of Return*
Zone 1	$\frac{12.6875}{\text{Cost Performance Ratio}} + 9$
Zones 2, 3, 4, 5	$\frac{11.8125}{\text{Cost Performance Ratio}} + 9$
Zone 5 (prebuilt facilities)	$\frac{11.375}{\text{Cost Performance Ratio}} + 9$
Zones 6, 7, 8, 9	$\frac{10.625}{\text{Cost Performance Ratio}} + 9$
Zones 6, 7, 8, 9 (prebuilt facilities)	$\frac{10.2}{\text{Cost Performance Ratio}} + 9$

* but shall not be less than 14.5%

Schedule III

Illustrative Rates Derived from Schedule II

Cost Performance Ratio	Zone 1	Zone 2,3,4,5	Zone 5 (Prebuilt)	Zone 6,7,8,9,	Zone 6,7,8,9 (Prebuilt)
	%	%	%	%	%
0.8	24.9	23.8	23.2	22.3	21.8
1.0	21.7	20.8	20.4	19.6	19.2
1.2	19.6	18.8	18.5	17.9	17.5
1.4	18.1	17.4	17.1	16.6	16.3
1.6	16.9	16.4	16.1	15.6	15.4
1.8	16.0	15.6	15.3	14.9	14.7
2.0	15.3	14.9	14.7	14.5	14.5
2.2	14.8	14.5	14.5	14.5	14.5